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— REMARKS —

Specification. In the Final Office action, Examiner Shah objected to the specification for having a typographical error. The Applicant has amended the specification herein to correct all typographical errors discovered by the Applicant, and no new matter was introduced by the amendment of the specification herein. Withdrawal of the objection to the specification is therefore respectfully requested.

Claims. In the Final Office Action, Examiner Laxton objected to and rejected pending claims 1-13 on various grounds. The Applicant responds to each rejection as subsequently recited herein, and respectfully requests reconsideration and further examination of the present application under 37 CFR § 1.112:

A. Examiner Laxton objected to claims 1-11 for failing to include proper antecedent basis for certain claim limitations

The Applicant has amended claims 1, 2, 10 and 11 herein to obviate this objection to claims 1-11. Withdrawal of the objection of claims 1-11 is therefore respectfully requested.

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B. Examiner Laxton rejected claims 1, 3 and 5-11 under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 6,396,250 to *Bridge* et al.

The Applicant has thoroughly considered Examiner Laxton's remarks concerning the patentability of claims 1, 3 and 5-11 over the *Bridge*. The Applicant has also thoroughly read *Bridge*. To warrant this §102(a) rejection of claims 1, 3 and 5-11, *Bridge* must show each and every limitation of claims 1, 10 and 11 in as complete detail as is contained claims 1, 10 and 11. See, MPEP §2131. The Applicant respectfully traverses this §102(a) rejection of claims 1, 10 and 11, because, among other things, *Bridge* fails to show the following limitations of claims 1, 10 and 11:

1. "wherein, upon the occurrence of the shoot through current, the timing of driving the switching elements (T₁, T₂) is changed such that the turn on of the first switching element (T₁) takes place later with respect to the instant of turn off of the second switching element (T₂)" in as complete detail as recited in claim 1;
2. "upon the occurrence of the shoot through current, the timing of driving the switching elements (T₁, T₂) is changed such that the turn on of the first switching element (T₁) takes place later than the instant of turn off of the second switching element (T₂)" in as complete detail as recited in claim 10; and
3. "wherein, upon the occurrence of the shoot through current, the turn on of the first switching element (T₁) takes place later with respect to the instant of turn off of the second switching element (T₂)" in as complete detail as recited in claim 11.

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As to the traversal, a proper understanding of *Bridge* reveals the fact that *Bridge* teaches a setting of time delays to a minimum value to avoid shoot-through current. See, *Bridge* at column 2, lines 9-11. Specifically, as illustrated in FIG. 7, *Bridge* teaches a digital controller 712 and a programmable turn-on delay 722 for driving a high side switching element 702, and teaches a digital controller 714 and a programmable turn-on delay 720 for driving a low side switching element 704 based on a setting of time delays to a minimum value that avoids shoot-through current. As such, *Bridge* teaches away from the aforementioned limitations of claims 1, 10 and 11.

Withdrawal of the rejection of claims 1, 10 and 11 under 35 U.S.C. §102(a) as being anticipated by *Bridge* is therefore respectfully requested.

Claims 3 and 5-9 depend from independent claim 1. Therefore, dependent claims 3 and 5-9 include all of the elements and limitations of independent claim 1. It is therefore respectfully submitted by the Applicant that dependent claims 3 and 5-9 are allowable the *Bridge* for at least the same reason as set forth herein with respect to independent claim 1 being allowable *Bridge*. Withdrawal of the rejection of dependent claims 3 and 5-9 under 35 U.S.C. §102(a) as being anticipated by *Bridge* is therefore respectfully requested.

C. Examiner Laxton rejected claims 1 and 3-11 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,661,208 to *Rutter* et al.

The Applicant has thoroughly considered Examiner Laxton's remarks concerning the patentability of claims 1 and 3-11 over the *Rutter*. The Applicant has also thoroughly read *Rutter*. To warrant this §102(e) rejection of claims 1 and 3-11, *Rutter* must show each and every limitation of claims 1, 10 and 11 in as complete detail as is contained claims 1, 10 and 11. See,

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MPEP §2131. The Applicant respectfully traverses this §102(e) rejection of claims 1, 10 and 11, because, among other things, *Rutter* fails to show the following limitations of claims 1, 10 and 11:

1. "wherein, upon the occurrence of the shoot through current, the timing of driving the switching elements (T₁, T₂) is changed such that the turn on of the first switching element (T₁) takes place later with respect to the instant of turn off of the second switching element (T₂)" in as complete detail as recited in claim 1;
2. "upon the occurrence of the shoot through current, the timing of driving the switching elements (T₁, T₂) is changed such that the turn on of the first switching element (T₁) takes place later than the instant of turn off of the second switching element (T₂)" in as complete detail as recited in claim 10; and
3. "wherein, upon the occurrence of the shoot through current, the turn on of the first switching element (T₁) takes place later with respect to the instant of turn off of the second switching element (T₂)" in as complete detail as recited in claim 11.

As to the traversal, a proper understanding of *Rutter* reveals the fact that *Rutter* teaches averting the danger of shoot-through current. See, Rutter at column 4, line 61 to column 5, line 2. Specifically, as illustrated in FIG. 2, *Rutter* teaches a control circuit 18, a set-reset latch 43, an AND gate 44 and a driver 30 for driving a high side switching element 6, and teaches control circuit 18, a set-reset latch 45, an AND gate 46 and a driver 32 for driving a low side switching element 8 based on a switch node 10 between switching elements 6 and 8 falling negative upon switching element 6 is switched off to thereby avert the danger of shoot-through current. As such, *Rutter* teaches away from the aforementioned limitations of claims 1, 10 and 11.

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Withdrawal of the rejection of claims 1, 10 and 11 under 35 U.S.C. §102(e) as being anticipated by *Rutter* is therefore respectfully requested.

Claims 3-9 depend from independent claim 1. Therefore, dependent claims 3-9 include all of the elements and limitations of independent claim 1. It is therefore respectfully submitted by the Applicant that dependent claims 3-9 are allowable the *Rutter* for at least the same reason as set forth herein with respect to independent claim 1 being allowable *Rutter*. Withdrawal of the rejection of dependent claims 3-9 under 35 U.S.C. §102(e) as being anticipated by *Rutter* is therefore respectfully requested.

D. Examiner Laxton rejected claims 1, 3, 4, 7, 10 and 11 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,724,175 to *Matsuda* et al.

The Applicant has thoroughly considered Examiner Laxton's remarks concerning the patentability of claims 1, 3, 4, 7, 10 and 11 over the *Matsuda*. The Applicant has also thoroughly read *Matsuda*. To warrant this §102(e) rejection of claims 1, 3, 4, 7, 10 and 11, *Matsuda* must show each and every limitation of claims 1, 10 and 11 in as complete detail as is contained claims 1, 10 and 11. See, MPEP §2131. The Applicant respectfully traverses this §102(e) rejection of claims 1, 10 and 11, because, among other things, *Matsuda* fails to show the following limitations of claims 1, 10 and 11:

1. "wherein, upon the occurrence of the shoot through current, the timing of driving the switching elements (T₁, T₂) is changed such that the turn on of the first switching element (T₁) takes place later with respect to the instant of turn off of the second switching element (T₂)" in as complete detail as recited in claim 1;

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2. "upon the occurrence of the shoot through current, the timing of driving the switching elements (T₁, T₂) is changed such that the turn on of the first switching element (T₁) takes place later than the instant of turn off of the second switching element (T₂)" in as complete detail as recited in claim 10; and
3. "wherein, upon the occurrence of the shoot through current, the turn on of the first switching element (T₁) takes place later with respect to the instant of turn off of the second switching element (T₂)" in as complete detail as recited in claim 11.

As to the traversal, a proper understanding of *Matsuda* reveals the fact that *Matsuda* teaches averting the danger of shoot-through current. See, Matsuda at column 2, line 57 to column 6, line 56; and column 9, line 28 to column 12, line 45. Specifically, as illustrated in FIG. 8 and 9, *Matsuda* teaches a power supply control IC 110 for driving a high side switching element Tr1, and a low side switching element Tr2 in a manner whereby switching elements Tr1 and Tr2 never simultaneously conduct to thereby avert the danger of shoot-through current. As such, *Matsuda* teaches away from the aforementioned limitations of claims 1, 10 and 11.

Withdrawal of the rejection of claims 1, 10 and 11 under 35 U.S.C. §102(e) as being anticipated by *Matsuda* is therefore respectfully requested.

Claims 3, 4 and 7 depend from independent claim 1. Therefore, dependent claims 3, 4 and 7 include all of the elements and limitations of independent claim 1. It is therefore respectfully submitted by the Applicant that dependent claims 3, 4 and 7 are allowable the *Matsuda* for at least the same reason as set forth herein with respect to independent claim 1 being allowable *Matsuda*. Withdrawal of the rejection of dependent claims 3, 4 and 7 under 35 U.S.C. §102(e) as being anticipated by *Matsuda* is therefore respectfully requested.

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SUMMARY

The Applicant respectfully submits that claims 1-11 fully satisfy the requirements of 35 U.S.C. §§ 102, 103 and 112. In view of the foregoing, favorable consideration and early passage to issue of the present application is respectfully requested. If any points remain in issue that may best be resolved through a personal or telephonic interview, Examiner Laxton is respectfully requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,
TOBIAS GEORG TOLLE

PHILIPS INTELLECTUAL PROPERTY
& STANDARDS
P.O. Box 3001
Briarcliff Manor, New York 10510
(914) 333-9669

Frank Keegan
Registration No. 50,145
Attorney for Applicant

CARDINAL LAW GROUP
Suite 2000
1603 Orrington Avenue
Evanston, Illinois 60201
Phone: (847) 905-7111
Fax: (847) 905-7113


Frank C. Nicholas
Registration No. 33,983
Attorney for Applicant